THE CLAIMS

1. (Original) A radio base station apparatus which is used in a mobile radio communication system in which a plurality of radio terminals are simultaneously call-connected and the number of radio terminals which can be connected varies depending on an amount of interference, and exchanges baseband transmission/reception signals with an external radio device which performs radio communication with the radio terminals, characterized by comprising:

a plurality of channel circuits which are respectively provided for radio channels used in the mobile radio communication system, convert transmission data, which are to be transmitted to radio terminals call-connected through the radio channels, into baseband transmission signals, output the signals to the external radio device with arbitrary transmission power, and output baseband reception signals from the external radio device as reception data from the radio terminals;

loopback test means for testing a transmission function or a reception function of an arbitrary channel circuit by looping back a predetermined test signal, inside the apparatus, which is output from a transmitting-side channel circuit, of said channel circuits, which serves as a transmitting side in a loopback test, and by receiving the test signal through a receiving-side channel circuit of said channel circuits which serves as a receiving side in the loopback test; and

a control unit which determines transmission power for the test signal in accordance with the number of call connections of a radio terminal call-connected to said apparatus in the loopback test, and indicates the transmission power to said transmitting-side channel circuit.

2. (Currently Amended) [[A]] The radio base station apparatus according to claim 1, characterized in that said control unit increases/decreases the transmission power of the test signal in accordance with an increase/decrease in the number of call connections, when the transmission power is determined.

3. (Currently Amended) [[A]] The radio base station apparatus according to claim 1, characterized in that in determining transmission power for the test signal, said control unit selects, as the transmission power, transmission power which satisfies, at least at the time of the number of call connections, a ratio between the test signal and an interference noise sum (SIR: Signal to Interference Ratio) which is obtained when the transmission power of the test signal is made equal to that of a radio terminal of interest when the number of call connections is 1.

4. (Currently Amended) [[An]] The radio base station apparatus according to claim 1, characterized in that said loopback test means comprises:

a test data generating circuit which supplies test data used for a loopback test to said transmitting-side channel circuit;

a selection circuit which loops back the test signal, as a reception signal, from said transmitting-side channel circuit to said receiving-side channel circuit on the basis of the test data; and

a test data comparison circuit which compares the test data supplied from said test data generating circuit with reception data of the test signal output from said receiving-side channel circuit.

5. (Currently Amended) [[A]] The radio base station apparatus according to claim 1, characterized in that said channel circuit comprises:

a power control circuit which adjusts transmission power of a transmission signal to the radio terminal in accordance with a request bit multiplexed on reception data from the radio terminal;

a bit multiplexing circuit which multiplexes an instruction bit, which instructs the radio terminal to adjust transmission power, on transmission data to the radio terminal on the basis of a ratio between a reception signal from the radio terminal and an interference noise sum (SIR: Signal to Interference Ratio); and

a test signal power control circuit which adjusts the transmission power of the test signal in accordance with an instruction from said control circuit.

6. (Original) A radio base station apparatus loopback test method which tests a transmission function or a reception function of a radio base station apparatus by transmitting/receiving a predetermined test signal upon looping back the signal inside the radio base station apparatus, said loopback test method being used in a mobile radio communication system in which a plurality of radio terminals are simultaneously call-connected and the number of radio terminals which can be connected varies depending on an amount of interference and exchanges baseband transmission/reception signals with an external radio device which performs radio communication with the radio terminals, characterized by comprising:

the step of testing the transmission function or the reception function of the apparatus by transmitting/receiving a predetermined test signal upon looping back the signal inside the apparatus;

the step of determining transmission power for the test signal in accordance with the number of call connections of a radio terminal in the radio base station apparatus; and

the step of adjusting the transmission power of the test signal on the basis of the transmission power.

7. (Currently Amended) [[A]] The radio base station apparatus loopback test method according to claim 6, characterized in that the step of determining the transmission power comprises the step of increasing/decreasing the transmission power of the test signal in accordance with an increase/decrease in the number of call connections.

8. (Currently Amended) [[A]] The radio base station apparatus loopback test method according to claim 6, characterized in that the step of determining the transmission power comprises the step of selecting, as the transmission power,

transmission power which satisfies, at least at the time of the number of call connections, a ratio between the test signal and an interference noise sum (SIR: Signal to Interference Ratio) which is obtained when the transmission power of the test signal is made equal to that of a radio terminal of interest when the number of call connections is 1.

9. (Currently Amended) [[A]] The radio base station apparatus loopback test method according to claim 6, characterized in that the step of determining the transmission power comprises the step of using, as the transmission power of the test signal, transmission power of a transmission signal transmitted to the radio terminal when the number of call connections is 1, when the number of call connections is less than 16.

10. (Currently Amended) [[A]] The radio base station apparatus according to claim 6, characterized in that the step of determining the transmission power comprises the step of using, as the transmission power of the test signal, power obtained by adding 1 dB to transmission power of a transmission signal which is transmitted to the radio terminal when the call connection count is 1, when the number of call connections is not less than 16 and less than 32.

11. (Original) A radio base station apparatus loopback back method, characterized in that the step of determining the transmission power comprises the step of using, as the transmission power of the test signal, power obtained by adding 3 dB to transmission power of a transmission signal which is transmitted to the radio terminal when the call connection count is 1, when the number of call connections is not less than 32 and less than 64.

12. (Original) A radio base station apparatus loopback back method, characterized in that the step of determining the transmission power comprises the step of using, as the transmission power of the test signal, power obtained by adding 18 dB

to transmission power of a transmission signal which is transmitted to the radio terminal when the call connection count is 1, when the number of call connections is not less than 64.